Claims

1. Radiation protection material for shielding X-rays and/or gamma rays from a foil-like, multi-layer material in which radiation-absorbing particles are dispersed, wherein the layer material consists of at least one carrier layer and one radiation absorbing layer, characterized in that the radiation-absorbing layer comprises a hardenable polymer preparation which is flowable in the processing state and wherein the effective lead portion is $\leq$ 15 %.

2. Radiation protection material according to claim 1, characterized in that the polymer preparation of the radiation absorbing layer comprises a PVC plastisol.

3. Radiation protection material according to claim 1 or 2, characterized in that the polymer preparation of the radiation absorbing layer comprises a liquid caoutchouc component and, in particular, a mixture of PVC plastisol and a liquid caoutchouc component.

4. Radiation protection material according to any one of the preceding claims, characterized in that the polymer material comprises softeners and/or cross-linking agents and/or further additional substances.

5. Radiation protection material according to any one of the preceding claims, characterized in that the polymer preparation contains between 20 and 40 weight% PVC and 10 to 35 weight% liquid caoutchouc, 0 to 10 weight% additional and auxiliary substances, the rest being softener.

6. Radiation protection material according to claim 5, characterized in that the polymer preparation contains 25 to 35 weight%, in particular 30 weight% PVC, 15 to 25 weight%, in particular 20 weight% liquid caoutchouc, 0 to 7 weight% additional substances and auxiliary means, the rest being softener.

7. Radiation protection material according to any one of the preceding claims, characterized in that the effective lead content is ≤ 10 weight%, in particular ≤ 5 weight% and in particular 0 weight%.

8. Radiation protection material according to any one of the preceding claims, characterized in that the specific lead equivalent is ≥ 30, in particular ≥ 32 and in particular ≥ 34 at at least a tube voltage of a tube voltage range of between 60 and 125 kV in accordance with IEC 1331-1/EN 61331.

9. Radiation protection material according to claim 8, characterized in that the specific lead equivalent is ≥ 30 at at least two tube voltages having a difference of at least 20 kV in a tube voltage range of between 60 and 125 kV in accordance with IEC 1331-1/EN 61331 and in particular ≥ 32 and in particular ≥ 34 and the tube voltages differ by 40 kV, 45 kV and in particular 65 kV.

10. Radiation protection material according to any one of the preceding claims, characterized in that the carrier layer consists of PVC plastisol material and/or polyurethane and/or polyester.

11. Radiation protection material according to any one of the preceding claims, characterized in that the portion of the polymer preparation of the radiation-absorbing layer is > 0 and ≤ 20 weight% and the portion of radiation absorbing particles is ≥ 80 weight% and < 100

weight% and in particular the portion of the polymer preparation is 10 to 20 weight% and the portion of radiation absorbing particles is 80 to 90 weight%.

12. Radiation protection material according to any one of the preceding claims, characterized in that the radiation absorbing particles contain tin, bismuth, barium and/or tungsten and oxides and salts of the metals and mixtures thereof.

13. Radiation protection material according to any one of the preceding claims, characterized in that the multi-layer material has a thickness of 0.3 to 1.2 mm, in particular 0.3 to 0.5 mm, preferably 0.35 to 0.45 mm.

14. Radiation protection material according to any one of the preceding claims, characterized in that radiation absorbing particles are contained in the at least one carrier layer.

15. Radiation protection material according to any one of the preceding claims, characterized in that the at least one carrier layer can be washed and/or is abrasion-resistant and/or has textile properties on its side facing away from the radiation absorbing layer.

16. Radiation absorbing material according to any one of the preceding claims, characterized in that the carrier layer is integrally connected to the radiation absorbing layer.

17. Method for producing a radiation protection material, in particular according to any one of the preceding claims, characterized in that a carrier layer is provided, in particular, produced through doctoring and drying on a substrate, a material for a radiation absorbing layer

is produced from of a pourable liquid polymer preparation through adding radiation absorbing particles and the material for the radiation-absorbing layer is disposed, poured, doctored or applied onto the carrier layer and the material of the radiation absorbing layer is hardened through thermal and/or chemical and/or physical cross-linking.

18. Use of a radiation protection material according to any one of the preceding claims, as radiation protection clothes, in particular as a radiation protection apron or radiation protection loincloth.